

REMARKS

Claims 1-6 and claims 8-13 are currently pending. Claims 1 and 9 stand rejected under 35 USC § 102(b) and claims 2-6, 8, and 10-13 stand rejected under 35 USC § 103(a). Claims 1 and 9 have been amended and Applicants respectfully request that the amendments to the claims be entered.

The Applicants appreciate the Examiner's thorough examination of the subject application and respectfully request reconsideration of the subject application based on the following remarks.

35 USC § 102(b) REJECTIONS

Claims 1 and 9 stand rejected under 35 USC 102(b) as being anticipated by US Patent Number 6,201,893 to Shiraiwa ("Shiraiwa" or the "Shiraiwa Reference"). The Applicants respectfully traverse the grounds for rejection based on the above amendments and the following remarks.

The invention as claimed recites a luminance correction means (claim 1) and a step for correcting luminance (claim 9) that raise the contrast of the image. More specifically, the present invention recites a luminance correcting means and a step for correcting luminance that correct luminance based on estimated contrast and gradation characteristics of the display means. Such features and method steps are not taught, mentioned or suggested by Shiraiwa.

Indeed, Shiraiwa discloses an image reproduction apparatus and method for converting an image taken by an imaging means into an image signal, e.g., an NTCS-RGB digital signal, that can be visibly output, by employing image reproduction parameters obtained from a plurality of image pick up data. As shown illustratively by example in Figure 7 of Shiraiwa, plural image pick up data for areas A, B, C, and D, which are parts of a whole, are converted

and concatenated to provide an output image of the whole rather than the individual areas.
See, e.g., Shiraiwa, col. 10, lines 39-63. Further,

If only one image pickup data is designated, the processing of this embodiment is not executed, and the image data is [sic: are] converted into image data by normal image reproduction processing.

Id., col. 9, lines 47-50. Accordingly, Shiraiwa does not disclose a feature that considers both the above-mentioned "contrast" and "gradation characteristics of display means". Moreover, Shiraiwa does not teach, mention or suggest correcting luminance by raising the contrast of the image on the basis of estimated contrast and correcting luminance of the pixels constituting the image based on the predetermined gradation characteristics of the display means.

The invention according to amended claims 1 and 9 can achieve the following advantages, which are not recognized in Shiraiwa.

First, "[t]he image processing device *can* always improve the contrast of the image regardless of *how* high contrast the image has. At the same time, the characters drawn in the image displayed on the display means become easy to read regardless of the bias of the gradation characteristics of the display means. Therefore, in the case where the image is displayed on the display means, the reduction in visibility of the image owing to both the contrast of the image and the gradation characteristics of the display means can be prevented. Furthermore, no change in luminance distribution between the image input from the reproducibility image input means and the image to be displayed on the display means owing to the gradation characteristics of the display means occurs. Therefore, the reproducibility of the image can be improved. See, e.g., Id, page 16, lines 6 to 19.

Therefore, it is respectfully submitted that, claims 1 and 9 are not anticipated or made obvious by the Shiraiwa reference and, further, satisfy all of the requirements of 35 U.S.C. 100, et seq., especially § 102(b). Accordingly, claims 1 and 9 and all claims depending therefrom are allowable. Moreover, it is respectfully submitted that the subject application is in condition for allowance. Early and favorable action is requested.

35 USC § 103(a) REJECTIONS

Claims 2, 6, 8, and 10 stand rejected under 35 USC 103(a) as unpatentable over Shiraiwa in view of US Patent Number 6,240,206 to Tokuyama ("Tokuyama" or the "Tokuyama Reference"); claim 3 stands rejected under 35 USC 103(a) as unpatentable over Shiraiwa in view Tokuyama further in view of an article by Takagi, i.e., "Selective Image Sharpening"; claims 4 and 5 stand rejected under 35 USC 103(a) as unpatentable over Shiraiwa in view of Tokuyama further in view of US Patent Number 6,266,439 to Pollard and US Patent Number 6,035,061 to Katsuyama; and claims 11 and 12 stand rejected under 35 USC 103(a) as unpatentable over Shiraiwa in view of US Patent Number 5,982,926 to Kuo ("Kuo" or the "Kuo Reference"). The Applicants respectfully traverse these rejections based on the following remarks.

Claims 2, 6, 8, and 10

The deficiencies of the Shiraiwa reference have been detailed above in our 35 USC § 102(b) discussion. Further, Tokuyama cannot make up for the deficiencies of the Shiraiwa reference. Specifically, the Tokuyama reference does not teach, mention or suggest correcting luminance by raising the contrast of the image on the basis of estimated contrast and correcting luminance of the pixels constituting the image based on the predetermined gradation characteristics of the display means.

The Examiner states: "It would have been obvious to one reasonably skilled in the art at the time of the invention to modify the image processing system of Shiraiwa to include character region extraction means and sharpening means for sharpening character regions at a higher level than non-character regions as taught by Tokuyama. Such a modification would have allowed for an image processing apparatus capable of improving the quality of an image comprised of character regions and non-character regions.

Shiraiwa and Tokuyama also do not recognize the problem of the present invention with respect to "the deterioration of the visibility of the image based on both the difference between a resolution of the image and a resolution of display means, and the gradation

characteristics of display means". As a result, the Applicants respectfully assert that, the effect of preventing the problem aforementioned and for preventing the deterioration of the visibility is not be made obvious by Shiraiwa and Tokuyama. Furthermore, since Shiraiwa does not describe "character regions and non-character regions", we believe that Shiraiwa does not motivate one to combine Shiraiwa with Tokuyama.

Therefore, it is respectfully submitted that, claims 2, 6, 8, and 10 are not made obvious by the Shiraiwa reference in view of Tokuyama and, further, satisfy all of the requirements of 35 U.S.C. 100, et seq., especially § 103(a). Accordingly, claims 2, 6, 8, and 10 are allowable. Moreover, it is respectfully submitted that the subject application is in condition for allowance. Early and favorable action is requested.

Claim 3

Nor can the Takagi article make up for the deficiencies of the Shiraiwa and Tokuyama references. Specifically, the Takagi article does not teach, mention or suggest correcting luminance by raising the contrast of the image on the basis of estimated contrast and correcting luminance of the pixels constituting the image based on the predetermined gradation characteristics of the display means.

Therefore, it is respectfully submitted that, claim 3 is not made obvious by the Shiraiwa reference in view of Tokuyama further in view of Takagi and, further, satisfies all of the requirements of 35 U.S.C. 100, et seq., especially § 103(a). Accordingly, claim 3 is allowable. Moreover, it is respectfully submitted that the subject application is in condition for allowance. Early and favorable action is requested.

Claims 4 and 5

Nor can the Pollard and/or Katsuyama references make up for the deficiencies of the Shiraiwa and Tokuyama references. Specifically, neither Pollard nor Kasuyama teaches, mentions or suggests correcting luminance by raising the contrast of the image on the basis of

estimated contrast and correcting luminance of the pixels constituting the image based on the predetermined gradation characteristics of the display means.

Therefore, it is respectfully submitted that, claims 4 and 5 are not made obvious by the Shiraiwa reference in view of Tokuyama further in view of Pollard and Katsuyama and, further, satisfy all of the requirements of 35 U.S.C. 100, et seq., especially § 103(a). Accordingly, claims 4 and 5 are allowable. Moreover, it is respectfully submitted that the subject application is in condition for allowance. Early and favorable action is requested.

Claims 11 and 12

The deficiencies of the Shiraiwa reference have been detailed above in our 35 USC § 102(b) discussion. Further, the Kuo reference cannot make up for the deficiencies of the Shiraiwa reference. Specifically, the Kuo reference does not teach, mention or suggest correcting luminance by raising the contrast of the image on the basis of estimated contrast and correcting luminance of the pixels constituting the image based on the predetermined gradation characteristics of the display means.

Therefore, it is respectfully submitted that, claims 11 and 12 are not made obvious by the Shiraiwa reference in view of Kuo, and, further, satisfy all of the requirements of 35 U.S.C. 100, et seq., especially § 103(a). Accordingly, claims 11 and 12 are allowable. Moreover, it is respectfully submitted that the subject application is in condition for allowance. Early and favorable action is requested.

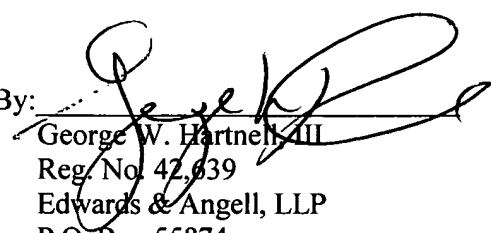
The Applicants believe that no additional fee is required for consideration of the within Response. However, if for any reason the fee paid is inadequate or credit is owed for any excess fee paid, you are hereby authorized and requested to charge Deposit Account No. **04-1105**.

Respectfully submitted,

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Customer No. 21874

By:



George W. Hartnell, III
Reg. No. 42,639
Edwards & Angell, LLP
P.O. Box 55874
Boston, MA 02205
(617) 517-5523 (phone)
(617) 439-4170 (fax)